

Se. No. 09/840,711
Docket No. FA 1000 US NA

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A process for the generation of a computer image of a coated, three-dimensional object comprising the steps of, in appropriate order:

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- (a) applying at least a relevant coating layer on at least two test panels under the influence of a set of coating parameters which differs with respect to each panel,
 - (e) ~~(b)~~ taking a plurality of measurements of at least one optical surface property as a function of the set of coating parameters selected on application of the relevant coating layer on each panel,
 - (c) storing the optical data in a datafile with assignment of the relevant set of coating parameters,
 - (d) ~~facetting~~ faceting the visible surface(s) of a three-dimensional object by computer into a sufficient number of flat polygonal areas each being sufficiently small for the sufficiently accurate description of the surface topography,
 - (e) assigning the relevant set of coating parameters and associated optical data in each case to each individual polygonal area by computer, and
 - (f) assembling the polygonal areas into a computer image of the three-dimensional object.

Claim 2 (original): The process of claim 1, wherein the relevant coating layer is a single-layer top coating consisting of the relevant coating layer.

Claim 3 (original): The process of claim 1, wherein the relevant coating layer comprises one of the coating layers in a multi-layer coating.

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Claim 4 (currently amended): The process of claim 1, wherein the at least two test panels in step (a) assume a position selected from the group consisting of a horizontal orientation and a vertical orientation.

Claim 5 (currently amended): The process of claim 1, wherein the at least two test panels in step (a) ~~at least two test panels~~ are coated in a horizontal orientation and at least two additional test panels are coated in a vertical orientation, wherein the sets of coating parameters used to coat the panels in the horizontal orientation are the same as used to coat the panels in the vertical orientation, and wherein ~~the~~ relevant optical data are stored with assignment of the relevant orientation prevailing whilst the test panels are being coated, and are selected accordingly when assigned to each individual polygonal area.

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Claim 6 (currently amended): The process of claim 5, wherein at least two ~~additional~~ further test panels are coated in an orientation arranged between the horizontal and the vertical orientation under the influence of the same sets of coating parameters used to coat the panels in the vertical and horizontal orientations, and the relevant optical data are stored with assignment of the relevant orientation prevailing whilst the ~~additional~~ at least two further test panels are being coated, and are selected accordingly when assigned to each individual polygonal area.

Claim 7 (currently amended): The process of claim 1, wherein the measurements of optical surface properties are selected from the group consisting of non angle-dependent and angle-dependent measurements, wherein non angle-dependent measurements ~~being~~ are selected from the group ~~comprising~~ consisting of visual determinations of pitting limits, visual determinations of sagging limits, colorimetric measurements on single-color coatings, and measurements of surface structure, and further wherein angle-dependent measurements ~~being~~ are selected from the group consisting of colorimetric measurements and gloss measurements.

Claim 8 (currently amended): The process of claim 7, wherein optical data measured as a function of angle are stored with assignment of the relevant angles

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selected from the group consisting of observation angles, illumination angles, and combinations thereof, and further wherein the optical data measured as a function of angle are assigned to each individual polygonal area as a function of the position of an observer and at least one illumination source.

Claim 9 (original): The process of claim 1, wherein the computer image is a representation selected from the group consisting of i) representation of an individual optical surface property and ii) representation of a combination of at least two optical surface properties.

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Claim 10 (original): The process of claim 1, wherein the computer image is a visually perceptible representation selected from the group consisting of

- a) a realistic, three-dimensional representation,
- b) a scaled, coded three-dimensional representation,
- c) a realistic, two-dimensional perspective representation, and
- d) a scaled, coded, two-dimensional, perspective representation.

Claim 11 (original): The process of claim 1, wherein the computer image exists only as a data set.

Claim 12 (currently amended): The process of claim 1, wherein the computer image is selected from the group consisting of a static image, film, and an interactive real-time representation.

Claim 13 (original): The process of claim 1, wherein the three-dimensional object is selected from the group consisting of motor vehicle bodies and body parts.

Claim 14 (new): A process for the generation of a computer image of a coated, three-dimensional object comprising the steps of, in appropriate order:

- (a) applying at least a relevant coating layer on at least two test panels in a horizontal orientation and at least two test panels in a vertical

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orientation under the influence of a set of coating parameters which differs with respect to each panel,

- (b) taking a plurality of measurements of at least one optical surface property as a function of the set of coating parameters selected on application of the relevant coating layer on each panel,
- (c) storing the optical data in a datafile with assignment of the relevant set of coating parameters,
- (d) faceting the visible surface(s) of a three-dimensional object by computer into a sufficient number of flat polygonal areas each being sufficiently small for the sufficiently accurate description of the surface topography,
- (e) assigning the relevant set of coating parameters and associated optical data in each case to each individual polygonal area by computer, and
- (f) assembling the polygonal areas into a computer image of the three-dimensional object;

wherein the sets of coating parameters used to coat the panels in the horizontal orientation are the same as used to coat the panels in the vertical orientation, and further wherein relevant optical data are stored with assignment of the relevant orientation prevailing whilst the test panels are being coated and are selected accordingly when assigned to each individual polygonal area.

Claim 15 (new): The process of claim 14, wherein at least two further test panels are coated in an orientation arranged between the horizontal and the vertical orientation under the influence of the same sets of coating parameters used to coat the panels in the vertical and horizontal orientations, and the relevant optical data are stored with assignment of the relevant orientation prevailing whilst the at least two further test panels are being coated, and are selected accordingly when assigned to each individual polygonal area.